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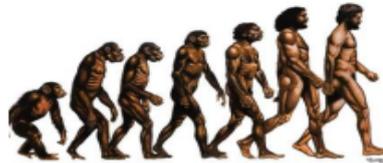
EBJ Knowledge Organiser Science Year 6

Spring 1 Evolution and inheritance



What is evolution?

Evolution is the gradual process by which different kinds of living organisms have developed from



earlier forms over millions of years. Scientists have proof that living things are continuously evolving – even today!

Evolution does not describe people changing their bodies by exercise or dyeing their hair. **Evolution** happens over a much longer time and can only happen between parents and offspring through inheritance.

Natural selection is the idea that species change over time in order to survive in their environment and reproduce. As offspring are born, they have the advantageous genetic characteristics passed on from their parents. Over time, this is how species adapt. Living things that are unable to adapt to the changes in the environment are unlikely to survive. Fossils of giraffes from millions of years ago show that they used to have shorter necks. They have gradually **evolved** through **natural selection** to have longer necks so that they can reach the top leaves on taller trees.



What is meant by inheritance?



Inheritance refers to the genes that are passed on from parents to offspring. When we talk about **inherited** characteristics, we tend to focus on

physical characteristics, such as eye colour or skin colour, as these are easy to spot, but inherited characteristics include abilities such as taste and smell. Characteristics are **inherited** from both parents but the way they combine creates



variations, making the offspring unique. For example, humans may get blue eyes from our Mum, but brown hair from our Dad. The **inherited** characteristics can combine in different ways, which is the reason why siblings (brothers and sisters) **inherit** the same characteristics but are not identical to each other. Even identical twins that share the exact same combination of DNA are not 100% the same.

Animals and plants produce offspring that are similar but not identical to them. Offspring often look like their parents because features are passed on.



The particular mix of DNA that offspring inherit from their parents is unique to them.

Key Vocabulary

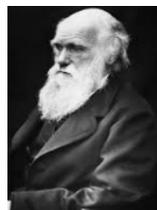
Adaptation, dinosaur, evolution, fossil, inheritance, inherited, natural selection, prehistoric, trait, variety.

Adaptations

Adaptations are any physical or behavioural characteristics of an animal that help it to survive in its environment. Living things are adapted to their habitats. This means that they have special features that help them to survive. It's not just animals that are adapted to their environment, plants are too. A cactus is well adapted for survival in the desert. They have long roots to collect water from a large area and a stem that can store water for a long period of time. The animals and plants in one habitat are suited to live there and may not be able to survive in other habitats. When a habitat changes, the animals and plants that live there are affected.

Famous scientists

Charles Robert Darwin was a naturalist who was born on February 12th, 1809, in Shropshire, England. He died in 1882 at the age of 73. Darwin is famous for travelling the world, investigating what makes animals and plants different and introducing the Theory of Evolution.



Mary Anning was born on 21 st May 1799 and lived all her life in Lyme Regis in Dorset (England). Mary is recognised as a pioneer in the field of palaeontology (the study of fossils) and is celebrated as the greatest fossil hunter of all time! In 1811, at the age of 12, Mary discovered an ancient species, named Ichthyosaurus – meaning 'fish lizard'. She also discovered a Plesiosaur skeleton (long necked sea creature) and a Pterodactyl (flying reptile). Mary died in 1847 at the age of 47.



Read all about it. Can you find these books in the local library?

